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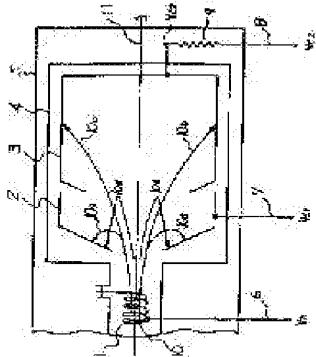
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## **(54) MULTI-STAGE DEPRESSED COLLECTOR FOR MICROWAVE TUBE**

(57)Abstract:

**PURPOSE:** To realize a multi-stage depressed collector in which the number of electrons returning to interaction portion is small by connecting at least one electrode to a lead wire through a resistor.

**CONSTITUTION:** A voltage  $V_h$  is applied to a helix 1 through a helix lead wire 6, a voltage  $V_{cl}$  to a first collector electrode 2 through a first collector wire 7 a voltage  $V_{c2}$  to a second collector electrode 3 through a resistor 9 by a second collector lead wire 8. At that time, the electric potential of a second collector electrode 3 in which the number of electrons returning to the helix 1 is small is lower than the constant voltage  $V_{c2}$  of the second collector electrode 3 which is generated in a power supply. In that case, the appropriate resistor 9 is interposed between the second collector electrode 3 and the second collector lead wire 8, and the actual voltage applied to the second collector electrode 3 is a voltage  $V'_{c2}$  lower than the voltage  $V_{c2}$  of the power supply by a voltage drop which is determined by the resistor 9 and a current flowing therethrough and the return electron at the multi-stage depressed collector enter into the first collector electrode 2 like electron beams 10d thereby being able to realize the multi-stage depressed collector in which the number of return electrons is small.



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